

What is claimed is:

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1. A surface mounting apparatus comprising:

a pair of fixed frames;

another frames which correspond to said pair, the number of said another frames including at least more than one compared with that of said fixed frames;

a moving member on which a printed circuit board is seated;

at least one or more head units installed at predetermined places of said another frames;

a vision unit for identifying holding and aligning status of electronic components; and

a component feeding unit for supplying the electronic components.

2. A surface mounting apparatus comprising:

a moving member movable freely in a predetermined direction, and on which a printed circuit board is seated;

a plurality of fixed X-frames;

a plurality pairs of Y-frames installed with respect to the X-frames, each of Y-frames being formed in a stripe shape;

head units installed at predetermined places of the Y-frames;

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a plurality of vision units installed at predetermined places with a predetermined spacing between the X-frame and the vision unit; and

a component feeder for supplying the electronic components.

3. The apparatus as defined in claim 2, wherein a length of each of the Y-frames can be adjustable to prevent an overlap between the head units.

4. The apparatus as defined in claim 2, wherein the Y-frames are structured to be movable along the X-frames.

5. The apparatus as defined in claim 2, wherein the head unit is movable along the Y-frames, and wherein at least one or more head units are installed.

6. The apparatus as defined in claim 2, wherein the vision unit comprises at least one or more CCD cameras.

7. A method for surface mounting electronic components on a printed circuit board, the method comprising the steps of:

providing the PCB from a conveyer to a moving member;
moving the PCB to predetermined place;

head units holding electronic components;

identifying if the head units accurately hold the electronic components;

holding the electronic components again, if the electronic components are not held accurately; mounting the electronic components on the PCB, if the electronic components are held accurately;

confirming whether or not predefined movement routes are completed; and

discharging the PCB, if the predefined movement routes are completed.

8. A surface mounting apparatus comprising:

at least one or more conveyers for carrying a PCB;

a PCB distribution unit for distributing the PCB carried from the conveyers to predetermined places;

a plurality of fixed X-frames;

a plurality of Y-frame pairs installed with respect to the X-frames, each Y-frame being formed in a stripe shape;

a head unit installed at predetermined place of the Y-frame

a PCB recovery unit for recovering the PCB;

a plurality of vision units installed at predetermined places, spaced apart at a predetermined spacing therebetween; and

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at least one or more feeders for supplying the electronic components.

9. The apparatus as defined in claim 8, wherein the PCB distribution is structured in a manner that the PCB is moved from the first conveyer to the second conveyer.

10. The apparatus as defined in claim 8, wherein the PCB recovery apparatus is structured in a manner that the PCB is moved from the second conveyer to the first conveyer.

11. The apparatus as defined in claim 8, wherein said feeder comprises first and second feeders, the first and second feeders being alternatively installed.

12. A method for surface mounting electronic components on a printed circuit board, the method comprising the steps of:

providing the PCB from a first conveyer to a moving member;

transferring the PCB from the first conveyer to the second conveyer using a PCB distribution unit;

respective head units holding respective electronic components from first and second component feeders;

identifying if each of the head units accurately holds the electronic component;

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holding the electronic components again, if the electronic components are not held accurately; and mounting the electronic components on the PCB, if the electronic components are held accurately;

moving the PCB by a determined distance;
confirming if a predefined movement route has been completed;

moving the PCB from the second conveyer to the first conveyer using a PCB recovery unit;

discharging the PCB so that the PCB transferred from the second conveyer dose not interfere with another PCB transferred from the first conveyer.